

### **Amendments to the Claims:**

Please amend the claims as follows:

1. (Original) An inverter system for driving a poly-phase motor, the system comprising:

- an alternating current motor which is driven by an inverter for outputting drive force or generating power;
- a power supply connected to a neutral point of the alternating current motor; and
- neutral point state detecting means for detecting a state of current or voltage at the neutral point,

wherein abnormality determination is performed based on the detection result of the neutral point state detecting means.

2. (Original) An inverter system according to claim 1, wherein the neutral point state detecting means detects ripples of voltage at the neutral point.

3. (Currently amended) An inverter system according to claim 1 [[or 2]], wherein

- an auxiliary electrical device that consumes electrical power is connected to the power supply, and
- the neutral point state detecting means detects ripples of current supplied to the auxiliary electrical device.

4. (Currently amended) An inverter system according to claim 2 [[or 3]], wherein

abnormality is determined when the ripples detected by the neutral point state detecting means are equal to or greater than a predetermined value.

5. (Currently amended) An inverter system according to ~~any one of claims 1 to 4~~ claim 1, wherein

a reactor is connected between the neutral point and the power supply, and

the neutral point state detecting means detects a state of current or voltage on the side of the power supply with respect to the reactor.

6. (Original) An abnormality detecting method in an inverter system for driving a poly-phase motor comprising an alternating current motor which is driven by an inverter and generates power, and a power supply connected to a neutral point of the alternating current motor, wherein

a state of current or voltage at the neutral point is detected, and abnormality determination is performed based on the detection result.

7. (Original) An abnormality detecting program in an inverter system for driving a poly-phase motor comprising an alternating current motor which is driven by an inverter and generates power, a power supply connected to a neutral point of the alternating current motor, and an abnormality detecting apparatus for monitoring current or voltage of the neutral point, wherein

the abnormality detecting program causes the abnormality detecting apparatus to capture a state of current or voltage at the neutral point and perform abnormality determination based on the captured state.

8. (Currently amended) An inverter system for driving a poly-phase motor, an abnormality detecting method for the poly-phase motor driving inverter system or an abnormality detecting program for the poly-phase motor driving inverter system according to ~~any one of claims 1 to 7~~ claim 1, wherein

the alternating current motor is an alternating current motor used for a vehicle.

9. (Original) An inverter system for driving a poly-phase motor comprising an alternating current motor which is driven by an inverter for outputting drive force and generating power and a power supply connected to a neutral point of the alternating current motor, the power supply being charged by power generated by the alternating current motor and supplying electrical power to a plurality of electrical devices, the inverter system comprising:

power supply line voltage detecting means for detecting voltage on a power supply line to which the power supply is connected; and

power supply current detecting means for detecting current of the power supply, wherein

during normal operation, the inverter is controlled in accordance with an output of the power supply line voltage detecting means, and

when it is determined that the power supply line voltage detecting means is operating abnormally, the inverter is controlled in accordance with an output of the power supply current detecting means.

10. (Original) An inverter system according to claim 9, wherein in the event of an abnormality in the power supply line voltage

detecting means, control is performed such that the power supply current becomes 0 in accordance with the output of the power supply current detecting means.

11. (Original) An inverter system for driving a poly-phase motor comprising an alternating current motor which is driven by an inverter for outputting drive force and generating power and a power supply connected to a neutral point of the alternating current motor, the power supply being charged by power generated by the alternating current motor and supplying electrical power to a plurality of electrical devices, the inverter system comprising:

power supply line voltage detecting means for detecting voltage on a power supply line to which the power supply is connected; and

neutral point current detecting means for detecting neutral point current which is input and output with respect to the neutral point of the alternating current motor, wherein

during normal operation, the inverter is controlled in accordance with an output of the power supply line voltage detecting means, and

when the power supply line voltage detecting means is operating abnormally, the inverter is controlled in accordance with an output of the neutral point current detecting means.

12. (Original) An inverter system according to claim 11, wherein the neutral point current detecting means detects current of each of three phases of the alternating current motor, and detects the neutral point current based on the detected values.

13. (Original) An inverter system for driving a poly-phase motor comprising an alternating current motor which is driven by an inverter for outputting drive force and generating power and a power supply connected to a neutral point of the alternating current motor, the power supply being charged by power generated by the alternating current motor and supplying electrical power to a plurality of electrical devices, the inverter system comprising:

power supply line voltage detecting means for detecting voltage on a power supply line to which the power supply is connected, and wherein

during normal operation, the inverter is controlled in accordance with an output of the power supply line voltage detecting means, and

when the power supply line voltage detecting means is operating abnormally, the inverter is controlled in accordance with a neutral point voltage command corresponding to a target voltage of the power supply.

14. (Original) An inverter system according to claim 13, wherein the neutral point voltage command is corrected base on at least one of revolution of the alternating current motor, an output torque command, and inverter input side voltage.

15. (Original) A control method of an inverter system for driving a poly-phase motor comprising an alternating current motor which is driven by an inverter for outputting drive force and generating power and a power supply connected to a neutral point of the alternating current motor, the power supply being charged by power generated by the alternating current motor and supplying electrical power to a plurality of electrical devices, wherein

during normal operation, the inverter is controlled in accordance with

voltage of a power supply line to which the power supply is connected, and  
in the event of abnormality in sensing of the power supply line  
voltage, the inverter is controlled in accordance with current of the power  
supply.

16. (Original) A control method of an inverter system for driving a  
poly-phase motor comprising an alternating current motor which is driven by  
an inverter for outputting drive force and generating power and a power  
supply connected to a neutral point of the alternating current motor, the  
power supply being charged by power generated by the alternating current  
motor and supplying electrical power to a plurality of electrical devices,

wherein

during normal operation, the inverter is controlled in accordance with  
voltage of a power supply line to which the power supply is connected, and  
in the event of abnormality in sensing of the power supply line  
voltage, the inverter is controlled in accordance with current of the neutral  
point.

17. (Original) A control method of an inverter system for driving a  
poly-phase motor comprising an alternating current motor which is driven by  
an inverter for outputting drive force and generating power and a power  
supply connected to a neutral point of the alternating current motor, the  
power supply being charged by power generated by the alternating current  
motor and supplying electrical power to a plurality of electrical devices,

wherein

during normal operation, the inverter is controlled in accordance with  
voltage of the power supply line, and

in the event of abnormality in sensing of the power supply line

voltage, the inverter is controlled in accordance with a neutral point voltage command corresponding to a target voltage of the power supply.

18. (Currently amended) A control program of an inverter system for driving a poly-phase motor, ~~the control program causing a system to perform a control method of a poly phase motor driving inverter system according to any one of claims 15 to 17~~ claim 15.

19. (Currently amended) An inverter system for driving a poly-phase motor, ~~an abnormality detecting method for the poly phase motor driving inverter system or an abnormality detecting program for the poly phase motor driving inverter system according to any one of claims 9 to 18~~ claim 9, wherein

the alternating current motor is an alternating current motor used for a vehicle.

20. (Original) An inverter system for driving a poly-phase motor, comprising a high voltage power supply, an inverter with the high voltage power supply being connected to an input side and with an alternating current motor being connected to an output side, and a low voltage power supply connected to a neutral point of the alternating current motor, the inverter system controlling driving of the alternating current motor and transfer of electrical power between the high voltage power supply and the low voltage power supply by controlling driving of the inverter, wherein

switching of the inverter is performed by controlling the switching on and off of a switching element of the inverter based on a gate signal obtained from comparison between a voltage command which is sinusoidal

wave and carrier, and

the voltage command which is sinusoidal wave is limited within a predetermined range with regard to the carrier amplitude.

21. (Original) An inverter system for driving a poly-phase motor comprising a high voltage power supply, an inverter with the high voltage power supply being connected to an input side and with an alternating current motor being connected to an output side, and a low voltage power supply connected to a neutral point of the alternating current motor, the inverter system controlling driving of the alternating current motor and transfer of electrical power between the high voltage power supply and the low voltage power supply by controlling driving of the inverter, wherein driving control of the alternating current motor includes at least a stop mode and a power generation mode, and a feed-forward element is included in a neutral point voltage command in a transition state of these modes.

22. (Original) A control method of an inverter system for driving a poly-phase motor comprising a high voltage power supply, an inverter having the high voltage power supply connected to an input side and having an alternating current motor connected to an output side, and a low voltage power supply connected to a neutral point of the alternating current motor, in which driving of the alternating current motor and transfer of electrical power between the high voltage power supply and the low voltage power supply is controlled by controlling driving of the inverter, wherein switching of the inverter is performed by controlling on and off of switching element of the inverter based on a gate signal obtained from



comparison between a voltage command which is sinusoidal wave and carrier, and

the voltage command which is sinusoidal wave is limited within a predetermined range with regard to the carrier amplitude.

23. (Original) A control method of an inverter system for driving a poly-phase motor comprising a high voltage power supply, an inverter with the high voltage power supply being connected to an input side and with an alternating current motor being connected to an output side, and a low voltage power supply connected to a neutral point of the alternating current motor, in which driving of the alternating current motor and transfer of electrical power between the high voltage power supply and the low voltage power supply is controlled by controlling driving of the inverter, wherein

driving control of the alternating current motor includes at least a stop mode and a power generation mode, and

a feed-forward element is included in a neutral point voltage command in a transition state of these modes.

24. (Currently amended) An inverter system for driving a poly-phase motor ~~or a control method of an inverter system for driving a poly-phase motor~~ according to ~~any one of claims 20 to 23~~ claim 20, wherein

the alternating current motor is an alternating current motor for a vehicle.